

Technical Specifications

MGE™ Galaxy™ 7000

160–500 kVA 380/400/415 V



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Technical Data

Model list

The MGE™ Galaxy™ 7000 UPS is available in the following models:

- MGE™ Galaxy™ 7000 160 kVA 380/400/415 V
- MGE™ Galaxy™ 7000 200 kVA 380/400/415 V
- MGE™ Galaxy™ 7000 250 kVA 380/400/415 V
- MGE™ Galaxy™ 7000 300 kVA 380/400/415 V
- MGE™ Galaxy™ 7000 400 kVA 380/400/415 V
- MGE™ Galaxy™ 7000 500 kVA 380/400/415 V



Input Power Factor

	For linear and non-linear load			
Load	25%	50%	75%	100%
Power Factor	≥ 0.95	> 0.99	> 0.99	> 0.99

Efficiency

The table below provides average system efficiencies on a double conversion single unit with a balanced linear load, PF 0.9, AC input voltage 400 V / AC output voltage 400 V.

Efficiency on load PF 0.8 or for other Input or Output AC voltage is very close to the values given below for PF 0.9, voltage input / 400V output. Difference is less than + / -0.2%.

Minimum system efficiency is very close to average system efficiency. The difference is 0.2% maximum.

All these measures are coming from the production line ATE statistics performed on over 200 units.

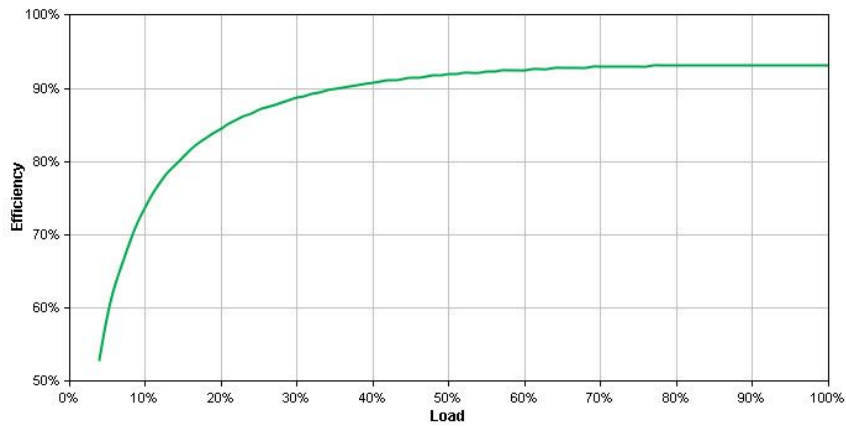
System	25% load	50% load	75% load	100% load
160 kVA	87.0	92.0	93.0	93.2
200 kVA	90.0	93.0	93.2	93.0
250 kVA	89.7	93.2	93.8	93.8
300 kVA	90.5	93.5	93.9	93.6
400 kVA	92.2	94.1	94.3	94.1
500 kVA	91.4	94.3	94.5	94.3

Efficiency Curves

160 kVA 400 V

Energy Use/Efficiency

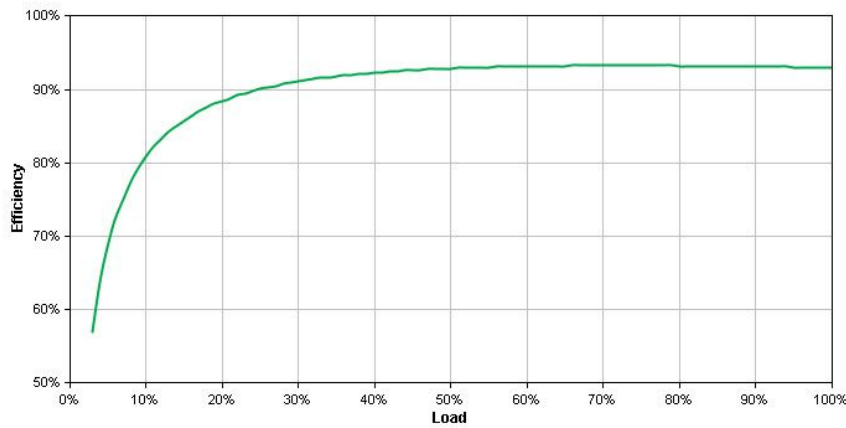
MGE Galaxy 7000 160 kVA (G7TUPS160)



200 kVA 400 V

Energy Use/Efficiency

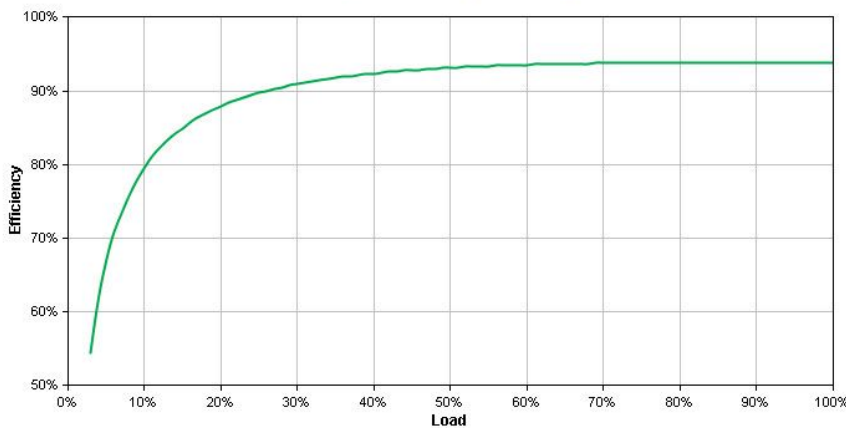
MGE Galaxy 7000 200 kVA (G7TUPS200)



250 kVA 400 V

Energy Use/Efficiency

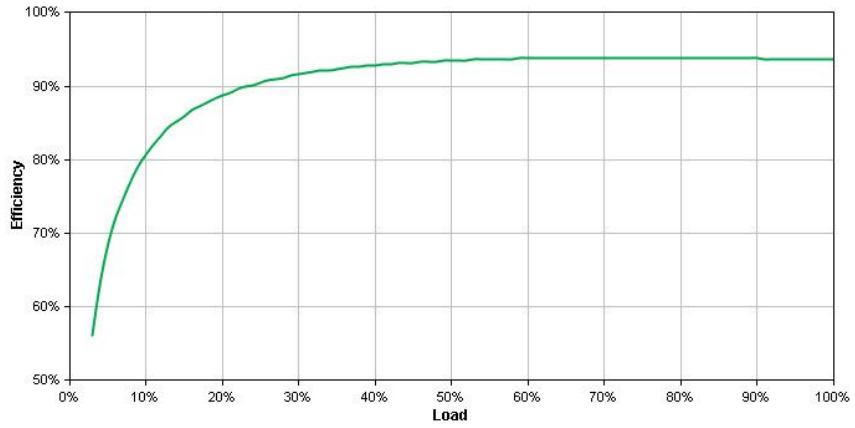
MGE Galaxy 7000 250 kVA (G7TUPS250)



300 kVA 400 V

Energy Use/Efficiency

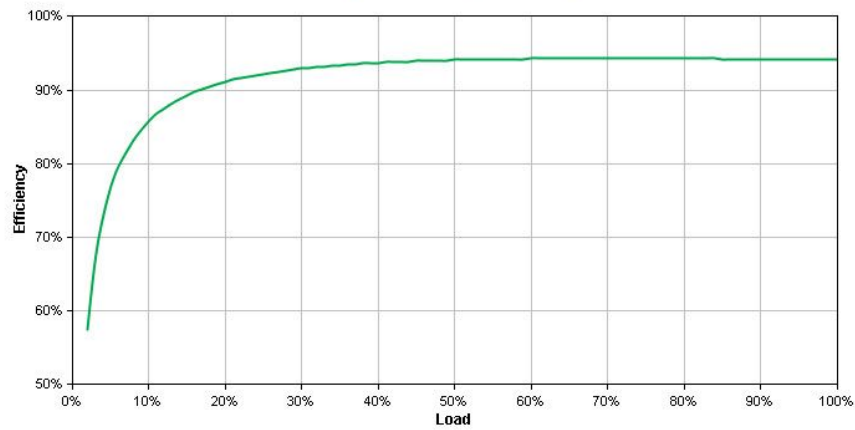
MGE Galaxy 7000 300 kVA (G7TUPS300)



400 kVA 400 V

Energy Use/Efficiency

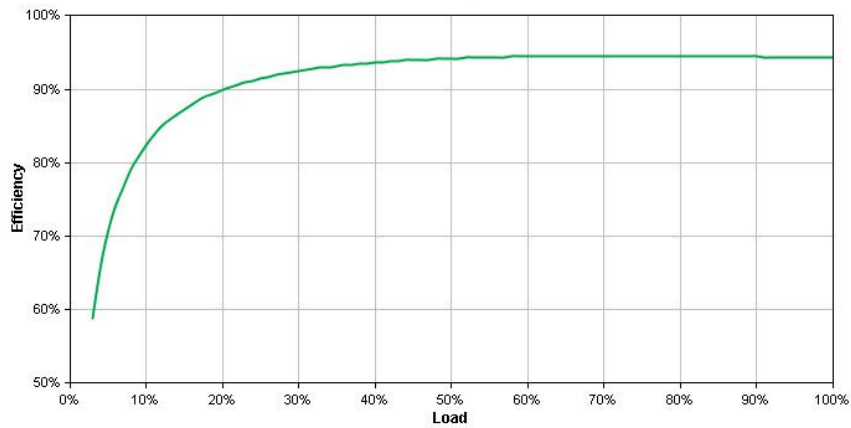
MGE Galaxy 7000 400 kVA (G7TUPS400)



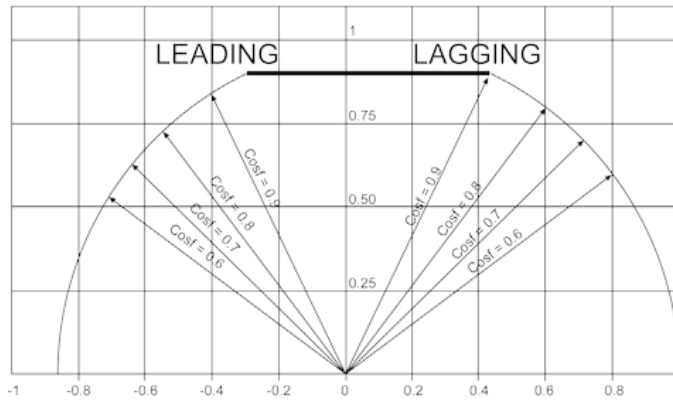
500 kVA 400 V

Energy Use/Efficiency

MGE Galaxy 7000 500 kVA (G7TUPS500)



Derating due to Load Power Factor



Batteries

Efficiency DC to AC

Efficiency in Battery Mode in %

Efficiency during discharge (output voltage 380 or 400V, inductive load PF 0.8 or 0.9)

% load	160 kVA	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA
25	87.5	90.5	90.2	91.0	92.7	91.9
50	92.5	93.5	93.7	94.0	94.6	94.8
75	93.5	93.7	94.3	94.4	94.8	95.0
100	93.7	93.5	94.3	94.1	94.6	94.8

DC Power in kW — PF 0.8

% load	160 kVA	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA
25	36.6	44.2	55.4	65.9	86.3	108.8
50	69.2	85.6	106.7	127.6	169.1	211.0
75	102.7	128.1	159.1	190.7	253.2	315.8
100	136.6	171.1	212.1	255.0	338.3	422.0

DC Power in kW — PF 0.9

% load	160 kVA	200 kVA	250 kVA	300 kVA	400 kVA	500 kVA
25	41.2	49.7	62.3	74.1	97.1	122.4
50	77.9	96.3	120.0	143.6	190.2	237.4
75	115.5	144.1	179.0	214.5	284.9	355.3
100	153.7	192.5	238.6	286.9	380.6	474.8

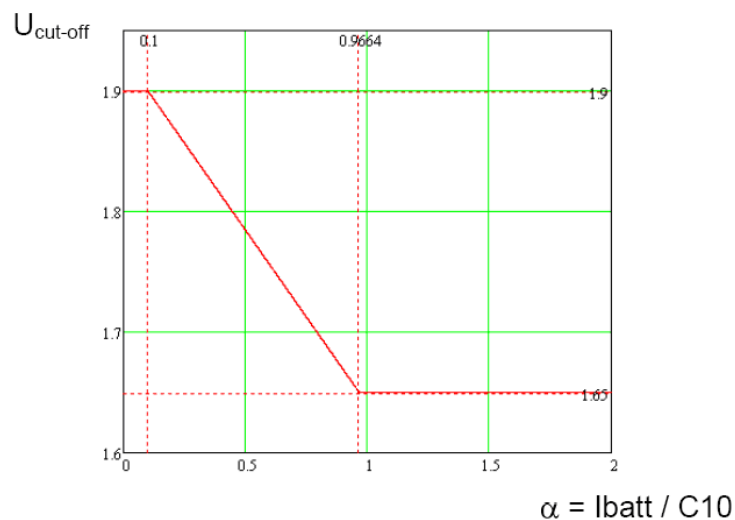
Battery Discharge Current

	160 kVA			200 kVA			250 kVA			300 kVA			400 kVA			500 kVA		
Voltage	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Ups currents, I rated of Normal AC I	329	313	300	412	392	376	515	490	470	617	588	564	823	784	753	1029	980	941



Note: The battery current is an average current for a battery voltage of 488 V (44 blocks at 1.85 V/cell each), at Pn with a power factor of 0.9

End of Discharge Voltage



$I_{batt}(A)$ = battery current at the beginning of discharge. $C10(Ah)$ = battery capacity in 10 hours

Between $0.1 < \alpha < 0.97$, equation of battery shutdown voltage level is : $U_{batt\ mini}(V/ cell) = (- 0.3 \times \alpha) + 1.93$

Example $\alpha = 0.5$ $U_{batt\ mini} = 1.78V/ cell$

Compliance

Directives for CE marking	
Low voltage directive	2006/95/CEE
EMC directive	2004/108/CEE
Safety standard of UPS	CEI/EN 62040-1 edition 2008/2008
EMC standard of UPS	CEI/EN 62040-2 edition 2005/2006

Declaration of conformity with UPS harmonised standards and directives IEC 62040-1 (Safety) and IEC 62040-2 (EMC) are available on demand.

Facility Planning

AC Input Specifications

	160 kVA			200 kVA			250 kVA			300 kVA			400 kVA			500 kVA		
	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Nominal input current (A)	236	225	216	295	281	270	369	351	337	441	420	403	586	558	536	735	700	672
Connection type	3-wire (3PH)																	
Input frequency (Hz)	45 Hz to 66 Hz																	
THDI	< 5% at full load																	
Input power factor correction	> 0.99 at load > 50%																	



Note: * For 400 V interphase voltages and a load with a power factor of 0.9.

AC Bypass Input Specifications

	160 kVA			200 kVA			250 kVA			300 kVA			400 kVA			500 kVA		
	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Nom input current (A)	243	231	222	303	289	278	379	361	347	455	433	417	607	577	556	759	722	695
Connection type	Hard Wire 4-wire (3PH + N + PE)																	
Input frequency (Hz)	45 Hz to 66 Hz																	

AC Output Specifications

	160 kVA			200 kVA			250 kVA			300 kVA			400 kVA			500 kVA		
	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415	380	400	415
Nom output current (A)	243	231	222	303	289	278	379	361	347	455	433	417	607	577	556	759	722	695
Connection type	Hard Wire 4-wire (3PH + N + PE)																	
Output capacity	150 % for 30 seconds (normal operation) 125 % for 10 minutes (normal operation)																	
Output frequency (sync to mains)	50/60 Hz \pm 0.1 Hz																	
Slew rate (Hz/Sec)	2																	
Total Harmonic Distortion (THDU)	< 2% ph/ph																	
Output power factor	0.9																	
Dynamic load response	\pm 1%																	
Output voltage regulation	\pm 1%																	
Crest factor	2.9	3.0	3.1	2.3	2.4	2.5	2.7	2.9	3.0	2.3	2.4	2.5	2.3	2.4	2.5	2.6	2.7	2.8

Battery Specifications

Type	Sealed lead-acid,	Vented lead-acid	Ni-Cad
Min./Max. number of cells	264 / 288	264 / 288	422 / 468
Floating voltage per cell	2.27 V	2.2 V	1.4 V
Min./Max. floating voltage	600 V / 654 V	581 V / 634 V	600 V / 655 V
Equalising voltage per cell	Not applicable	2.4 V	1.5 V
Boost voltage per cell	Not applicable	2.25 V	1.45 V
Min. voltage per cell	1.65 V to 1.9 V	1.65 V to 1.9 V	1 V
Recharge current	0.1 x C10	0.1 x C10	0.2 C5

Recommended Cable Sizes

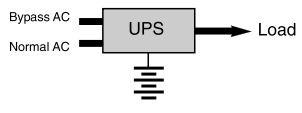
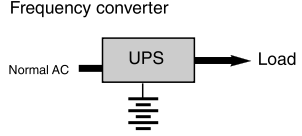
Power Cables for Single UPSs



Note: AC cable sizes are determined for: The TNS system for copper, single-core cables, type U1000 R02V, 100 m long with a line voltage drop <3%, installed on perforated cable trays, XLPE-type insulation, single-layer trefoil formation, THDI between 15% and 33%, 35°C, at 400V, grouped in four touching cables.



Note: Battery cable sizes are determined for: Copper, single-core cables, type U1000 R02V, maximum length 25 m with a line voltage drop <1%.

General case 	UPS cabinets	Minimum size in mm ²			
		Normal AC line	Bypass AC line	Load	Battery
	160 kVA	1 x 95	1 x 95	1 x 95	1 x 95
	200 kVA	1 x 120	1 x 120	1 x 120	1 x 120
	250 kVA	1 x 150	1 x 150	1 x 150	1 x 150
	300 kVA	1 x 240	1 x 240	1 x 240	1 x 185
	400 kVA	2 x 150	2 x 150	2 x 150	1 x 240
	500 kVA	2 x 240	2 x 240	2 x 240	2 x 150

Power Cables for Parallel UPSs

Normal AC Line and Battery



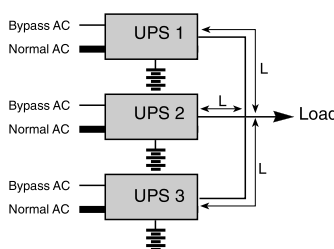
Note: AC cable sizes are determined for: The TNS system for copper, single-core cables, type U1000 R02V, 100 m long with a line voltage drop <3%, installed on perforated cable trays, XLPE-type insulation, single-layer trefoil formation, THDI between 15% and 33%, 35°C, at 400V, grouped in four touching cables.



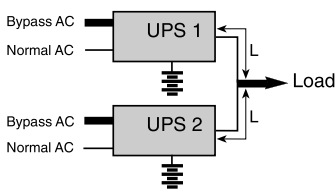
Note: Battery cable sizes are determined for: Copper, single-core cables, type U1000 R02V, maximum length 25 m with a line voltage drop <1%.



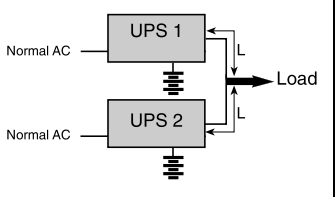
Note: Important: For > 200 kVA UPSs, the output cables must be at least 6 metres long ($L \geq 6$ m).

	UPS cabinets	Minimum size in mm ²	
		Normal AC line	Battery
	160 kVA	1 x 95	1 x 95
	200 kVA	1 x 120	1 x 120
	250 kVA	1 x 150	1 x 150
	300 kVA	1 x 240	1 x 185
	400 kVA	2 x 150	1 x 240
	500 kVA	2 x 240	2 x 150

Bypass AC Line and Load

	UPS cabinets	No. of UPSs	Total power rating in kVA	Current on AC bypass or load in A	Min. size for AC bypass or load in mm ²
	160 kVA	2	160	231	1 x 95
	200 kVA	2	200	289	1 x 120
	250 kVA	2	250	361	1 x 150
	300 kVA	2	300	433	1 x 240
	400 kVA	2	400	577	2 x 150
	500 kVA	2	500	722	2 x 240

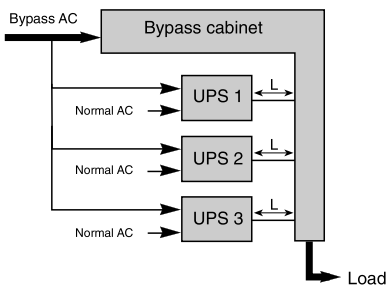
Frequency Converters

	UPS cabinets	No. of UPSs	Total power rating in kVA	Current on AC bypass or load in A	Min. size for load in mm ²
	160 kVA	2	160	231	1 x 95
	200 kVA	2	200	289	1 x 120
	250 kVA	2	250	361	1 x 150
	300 kVA	2	300	433	1 x 240
	400 kVA	2	400	577	2 x 150
	500 kVA	2	500	722	2 x 240



Note: Power cables between the UPS units and the upstream protective devices must all be of the same size and length.
Power cables between the UPS units and the load must all be of the same size and length.

Integrated Parallel UPSs with External Bypass Cabinet



UPS cabinets	No. of UPSs	Total power rating ¹ in kVA	Current on AC bypass or load in A	Min. size for load in mm ²
160 kVA	2	320	462	2 x 95
	3	480	693	2 x 185
	4	640	923	2 x 240
200 kVA	2	400	578	2 x 150
	3	600	866	2 x 240
	4	800	1154	4 x 185
250 kVA	2	500	722	2 x 185
	3	750	1083	3 x 300
	4	1000	1443	4 x 240
300 kVA	2	600	866	2 x 240
	3	900	1300	4 x 240
	4	1200	1732	4 x 300
400 kVA	2	400	1154	4 x 185
	3	1200	1732	4 x 300
	4	1600	2308	4 x 500
500 kVA	2	500	1433	4 x 240
	3	1500	2165	4 x 500
	4	2000	2886	Consult us ²



Note:

¹ Do not include redundant UPS units.

² Standard NFC15–100 limits the number of cables to four.

Power cables between the UPS units and the upstream protective devices must all be of the same size and length.

Power cables between the UPS units and the load must all be of the same size and length.

Parallel UPSs with Static-Switch Cabinet (SSC)

	UPS cabinets	No. of UPSs	Total power rating ¹ in kVA	Current on AC bypass or load in A	Min. size for load in mm ²
	250 kVA	2	500	722	2 x 185
		3	750	1083	3 x 300
		4	1000	1443	4 x 240
	300 kVA	2	600	866	2 x 240
		3	900	1300	4 x 240
		4	1200	1732	4 x 300
	400 kVA	2	400	1154	4 x 185
		3	1200	1732	4 x 300
		4	1600	2308	4 x 500
	500 kVA	2	500	1433	4 x 240
		3	1500	2165	4 x 500
4		2000	2886	Consult us ²	



Note:

¹ Do not include redundant UPS units.

² Standard NFC15–100 limits the number of cables to four.

Power cables between the UPS units and the upstream protective devices must all be of the same size and length.

Power cables between the UPS units and the load must all be of the same size and length.

Connection Terminals



Note:

Connections are made to terminals that are pre-drilled or equipped with studs.

Earthing cables connect to the earthing bar.

UPS Cabinets

Cabinets	Type of stud	Hole diameter in mm		
	Phase terminal		Earthing terminal	Battery terminal
160 — 400 kVA	2 x M10*	10	13	13
500 kVA	N/A	13	13	13



Note: * Maximum tightening torque 25 Nm.

SSCs, SSC Maintenance, External Bypass Cabinets

Cabinets	Phase terminal	Earthing terminal
	Hole diameter in mm	
800 kVA	13	13
1200 kVA	13	13
2000 kVA	13 & 17	13

Recommended Overcurrent Protection

Recommended upstream and downstream protection



Note: Stick a label with the following text on each upstream circuit breaker / switch-disconnector: "Isolate Uninterruptible Power Supply (UPS) before working on this circuit". Protection ratings are calculated for the maximum continuous current (at 380 V).

UPS	160 kVA		200 kVA		250 kVA	
	CB	Trip Unit	CB	Trip Unit	CB	Trip Unit
Normal AC source	NSX 400 3P*	STR 23 SE	NSX 400 3P*	STR 23 SE	NSX 630N 3P*	STR 23 SE
Bypass AC source	NSX 400 4P*	STR 23 SE	NSX 400 4P*	STR 23 SE	NSX 630N 4P*	STR 23 SE
Output	NSX 100 N	TM D 63	NSX 100 N	TM D 63	NSX 100 N	TM D 80
	C120N	C63	C120N	C63	C120N	C80
	C120N	B 100	C120N	B 100	C120N	B 125

UPS	300 kVA		400 kVA		500 kVA	
	CB	Trip Unit	CB	Trip Unit	CB	Trip Unit
Normal AC source	NSX 630N 3P*	STR 23 SE	NSX 800N 3P*	Micrologic 2.0	NSX 800N 3P*	Micrologic 5.0
Bypass AC source	NSX 630N 4P*	STR 23 SE	NSX 800N 4P*	Micrologic 2.0	NSX 800N 4P*	Micrologic 5.0
Output	NSX 100 N	TM D 80	NSX 100 N	TM D 100	C125N	D 125
	C120N	C80	NG 125N	C 125	NSX 160N	TM 160D
	C120N	B 125	C125H	C 125	NG125N	D125

* For short-circuit currents > 40 kA, use a CB/SD with a higher breaking capacity (type L or H).



Note: The circuit breakers / switch-disconnectors recommended above comply with the requirements for discrimination with the UPS fuses. Depending on the installation, the CB/SD may be replaced by a CB/SD with a higher breaking capacity.



Note: If these downstream protection recommendations are not followed, a short-circuit on an output circuit can result in a break in power longer than 20 ms on all the other output circuits.



Note: Depending on the installation, the CB/SD for output may be replaced by a CB/SD with a higher breaking capacity. These protective devices ensure discrimination for each circuit downstream of the UPS, with or without a bypass AC input.

Battery Protection

Circuit Breakers NS630 DC Cabinet

Ups	Maximum battery backup time in minutes at Sn(1) for a power factor of 0.9	QF1 circuit breaker			Max. cable cross-section in mm ²
		Type	Trip unit	Magnetic setting in A	
160 kVA	All	NS 630 DC	MP1	1000	1 x 95
200 kVA	All	NS 630 DC	MP1	1000	1 x 120
250 kVA	All	NS 630 DC	MP1	1500	1 x 150
300 kVA	≤ 15 min	NS 630 DC	MP1	1500	1 x 185
	> 15 min	2 x NS 630	MP1	see below	1 x 185
400 kVA	≤ 5 min	NS 630 DC	MP1	1600	1 x 240
	> 5 min	2 x NS 630	MP1	see below	1 x 240
500 kVA	All	2 x NS 630	MP1	see below	2 x 150



Note:

Follow the necessary precautions during connection of circuit breakers / switch-disconnectors in the installation.

P_n = rated power at a power factor of 0.9; for other values, please consult the after-sales support or the local office.

Setting the Circuit Breakers

UPS	Maximum battery backup time in minutes	Total number of battery strings	QF1-1 Circuit Breaker		QF1-2 Circuit Breaker	
			Number of battery strings	Magnetic setting (A)	Number of battery strings	Magnetic setting (A)
300 kVA	> 15 min	2	1	800	1	800
		3	2	1000	1	800
		4	2	800	2	800
		5	3	1000	2	800
		6	3	800	3	800
400 kVA	> 5 min	2	1	800	1	800
		3	2	1100	1	800
		4	2	800	2	800
		5	3	1000	2	800
		6	3	800	3	800
500 kVA	All	2	1	900	1	900
		3	2	1200	1	800
		4	2	900	2	900
		5	3	1100	2	800
		6	3	900	3	900

Recommended Residual-Current Protection

Requirements for residual-current protection:

For common normal and bypass AC inputs:

- The same residual-current protection may be used for the two lines.

For separate normal and bypass AC inputs:

- A transformer is required upstream of either the normal AC line or the bypass AC line.
- Equip each line with a circuit breaker or switch-disconnector with residual current protection.

The recommended minimum residual current protection is 3A, provided the conditions defined in IEC364.4-41 are complied with.

Physical

Weights and Dimensions

UPS	Weight (kg)	Height (mm)	Width (mm)	Depth (mm)
160 kVA	840	1900	1412	855
200 kVA	840	1900	1412	855
250 kVA	990	1900	1412	855
300 kVA	990	1900	1412	855
400 kVA	1140	1900	1412	855
500 kVA	1500	1900	1812	855

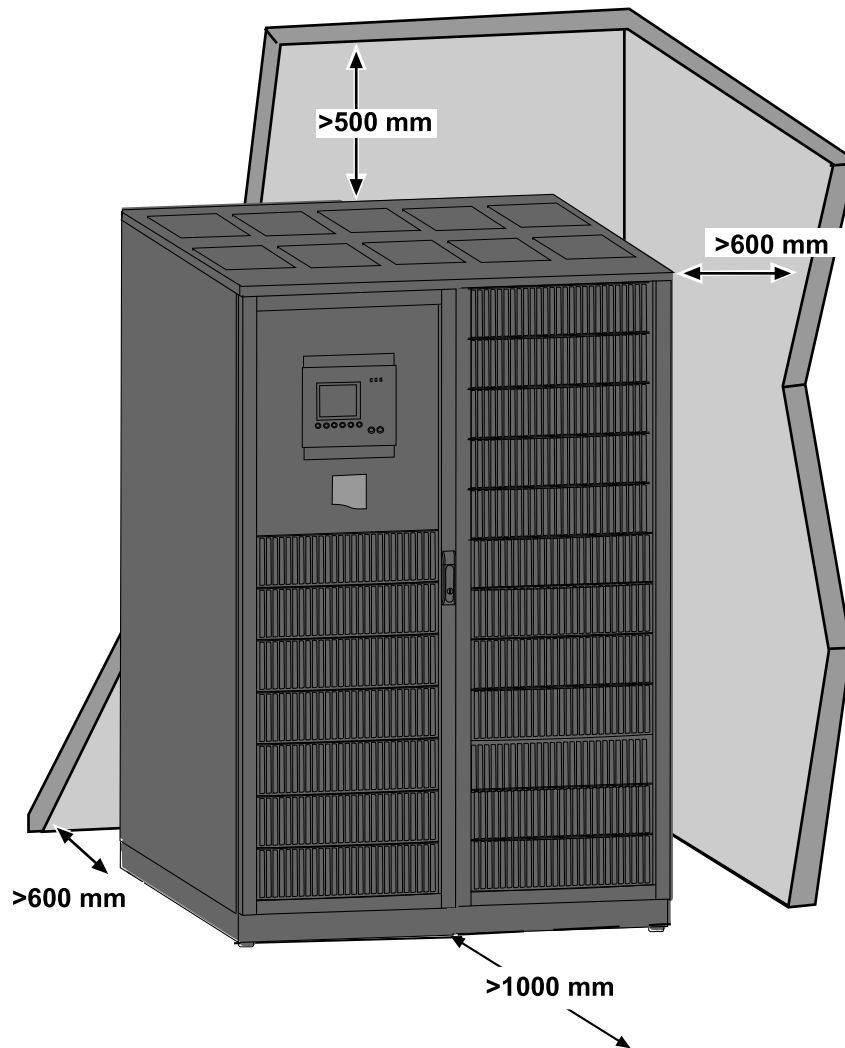
Shipping Weights and Dimensions

UPS	Weight (kg)	Height (mm)	Width (mm)	Depth (mm)
160 kVA	860	2030	1525	970
200 kVA	860	2030	1525	970
250 kVA	1010	2030	1525	970
300 kVA	1010	2030	1525	970
400 kVA	1160	2030	1525	970
500 kVA	1520	2030	1925	970

Clearance



Note: Clearance dimensions are published for airflow and service access only. Consult with the local safety codes and standards for additional requirements in your local area.



Environmental

Operating Temperature	0 - 40 °C
Storage Temperature with or without batteries	-25 - 45 °C dry heat
Operating Relative Humidity	20- 95%, non-condensing
Storage Relative Humidity	20- 95%, non-condensing
Operating Elevation	0–1500 m: 85% load 1500–2000 m: 79% load 2000–2300 m: 75% load 2300–3000 m: 69% load 3000–4000 m: 59% load
Storage Elevation	0-10000 meters
Audible noise according to ISO 3746 (NFS 31 027) 160-400 kVA 380/400/415 V 500 kVA 380/400/415 V	75 dBA 75 dBA
Protection Class	From IP20 to IP32
Colour	Pearl dark grey (RAL 9023)

Heat Dissipation

	160 kVA		200 kVA		250 kVA		300 kVA		400 kVA		500 kVA	
	Batteries fully charged (FC)	Batteries charging (C)	Batt. (FC)	Batt. (C)	Batt. (FC)	Batt. (C)	Batt. (FC)	Batt. (C)	Batt. (FC)	Batt. (C)	Batt. (FC)	Batt. (C)
Active power (kW)	72	144	90	180	112	225	135	270	180	360	225	450
Efficiency	92.0	93.2	93.0	93.0	93.2	93.8	93.5	93.6	94.1	94.1	94.3	94.3
Heat losses in kW	6.3	10.5	6.8	13.5	8.2	14.9	9.4	18.6	11.3	22.6	13.6	27.2
Heat losses in calories/s	1496	2511	1619	3238	1962	3554	2243	4449	2697	5395	3250	6501

Default settings

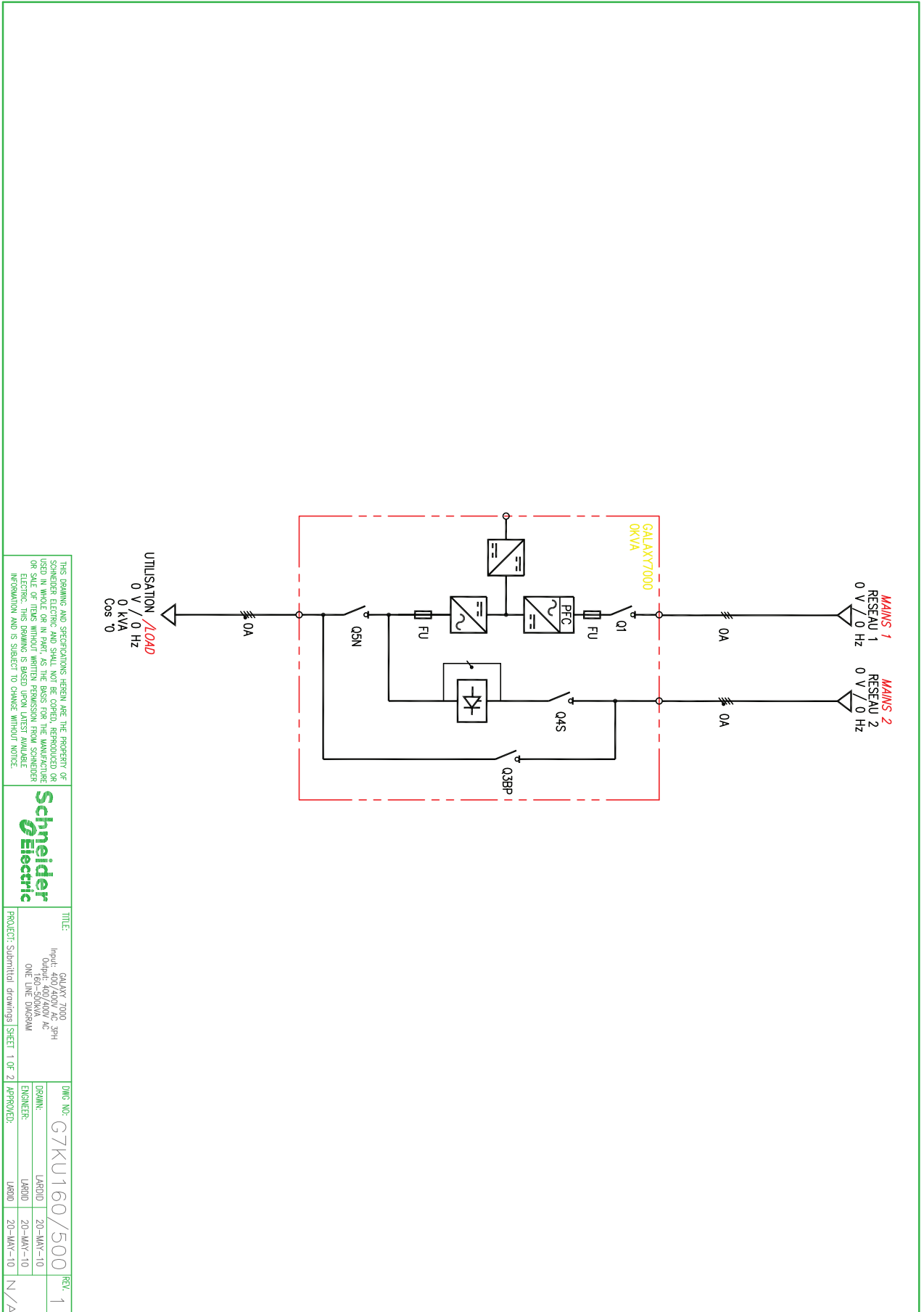
System Settings (only updated when in load disconnect)	Default setting
Nominal output rated voltage (ph-ph)	400 V (380, 400, or 415)
Frequency	50 Hz (50 or 60 Hz)
Frequency range	45 Hz to 66 Hz
Automatic start	Forbidden
Rate of synchronization with AC Bypass source	1 Hz/s
Transfer to Bypass AC	Allowed
AC bypass overload control	active
AC Bypass frequency threshold tolerance	8 %
AC Bypass Static Switch operation when EPO	Close
Shutdown mode (can only be set from service port)	Never
PFC current ramp enable	Yes
Break duration	100 ms
Remote command enabled	No
Shutdown setting	
Shutdown mode (can only be set from service port)	Never
Other settings	
Battery present	No
Battery-test interval	1 month
Low battery warning voltage threshold	20 %
Low battery warning time threshold	1 minute
Deep battery discharge	Forbidden
Display settings	
Display language	English
Date format	mm/dd/yyyy
Temperature unit	°C
Main screen	Welcome screen
Password	OOO

Drawings



Note: A comprehensive set of drawings is available on the engineering website at www.engineer.apc.com.

MGE Galaxy 7000 Single System



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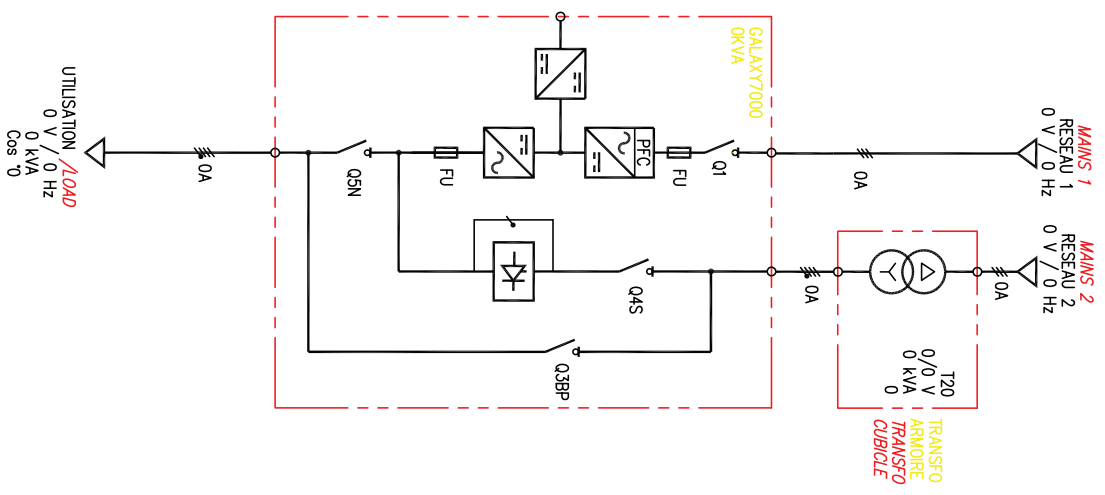


TITLE: GALAXY 7000
 Input: 400/400V AC 3PH
 Output: 400/400V AC
 ONE LINE DIAGRAM

DWG NO: G7KU160/500
 DRAWN: LABRD
 ENGINEER: LABRD
 APPROVED: LABRD

REV: 1
 20-MAY-10
 20-MAY-10
 20-MAY-10
 N/A

MGE Galaxy 7000 Single System with Transformer



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TITLE:	GALAXY 7000 Input: 400/400V 3PH Output: 400/400V AC 160-500kVA ONE LINE DIAGRAM	DWG. NO:	G7KUT160/500	REV:	1
PROJECT:	Submittal drawings	ENGINEER:	LARDD	DATE:	20-MAY-10
	SHEET 1 OF 2	APPROVED:	LARDD		20-MAY-10
					N/A

Options

Hardware Options

Battery Cabinets

- MGE Galaxy 7000 Empty Battery Cabinet 700 mm

Auxiliary Cabinets

- MGE Galaxy 7000 Empty Auxiliary Cabinet
- MGE Galaxy 7000 Empty Auxiliary Cabinet 700 mm
- MGE GALAXY 7000 400 V Top Connection

External Bypass

- MGE Galaxy 7000 External Bypass

Battery Circuit Breaker Boxes

- MGE Galaxy 7000 Battery Circuit Breaker Box 200 kVA 400 V
- MGE Galaxy 7000 Auxiliaries 250 kVA
- MGE Galaxy 7000 Auxiliaries 300 kVA
- MGE Galaxy 7000 Auxiliaries 400 kVA
- MGE Galaxy 7000 Auxiliaries 500 kVA

Protection and Cover Features

- MGE Galaxy 7000 Transversal Auxiliaries
- MGE GALAXY 7000 400 V IP Cover
- MGE UPS Galaxy 7000 Options

Static Switch Cabinets

- MGE Galaxy 7000 Static Bypass Switch

Management Cards

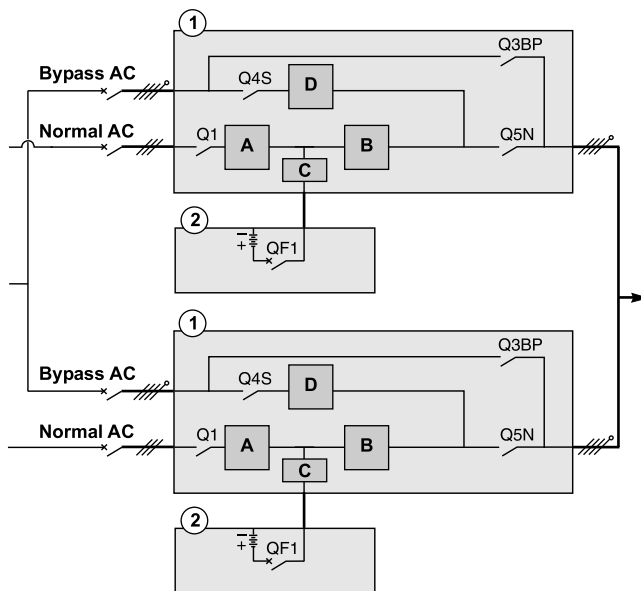
- MGE Network Management Card with ModBus/Jbus
- MGE Network Management Card Teleservice Card
- MGE Environment Sensor for Network Management Cable

Configuration Options

- Connection through the top
- Isolation/Voltage matching transformer
- Synchronisation module
- B2000 or Cellwatch battery-monitoring system for block by block management
- Lightning arrestor (built into the UPS cabinet)
- Backfeed protection
- Jbus/Modbus + Ethernet 10/100
- Multi-standard communication cards
- Jbus/Modbus + Ethernet 10/100 + Modem
- Two ports with dry contacts and/or remote shutdown
- Battery circuit breaker unit
- Supervision and shutdown software
- Enterprise Power Manager V.2

Parallel Capabilities

Integrated Parallel UPSs



UPS cabinet (1)

PFC rectifier module (A)

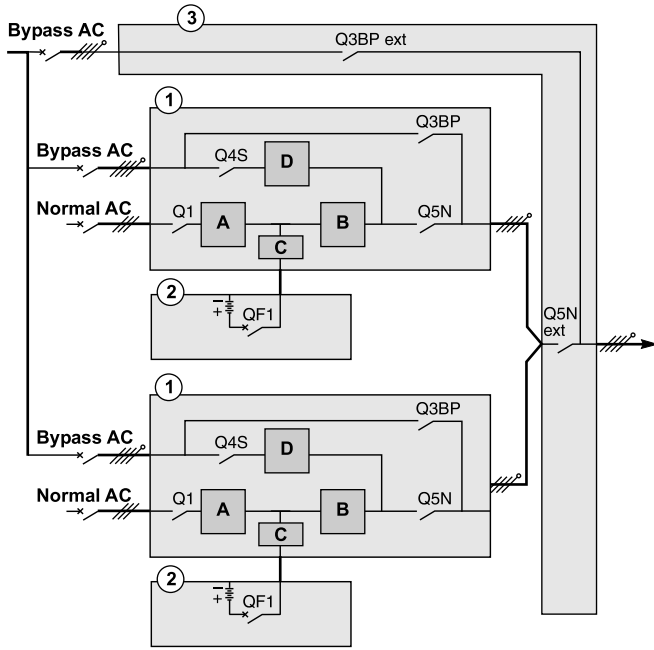
Inverter module (B)

Battery chopper (C)

Static-switch on AC bypass line (D)

Batteries (2)

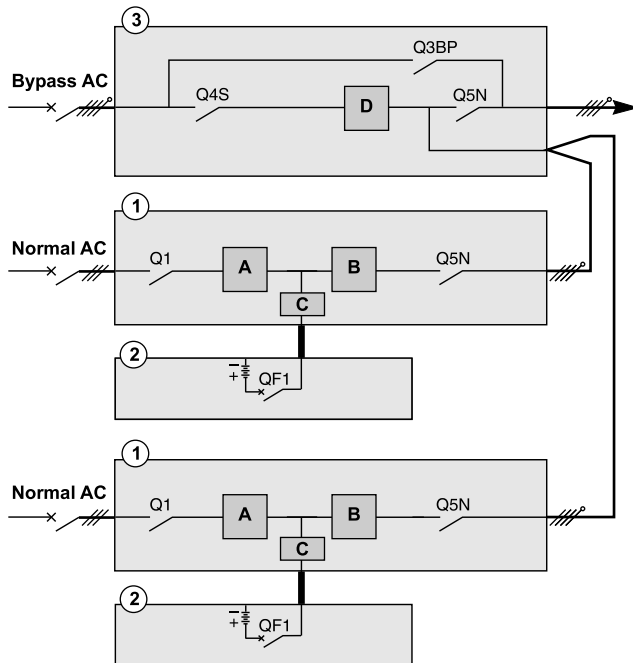
Integrated Parallel UPSs with external bypass cabinet



- UPS cabinet (1)
- PFC rectifier module (A)
- Inverter module (B)
- Battery chopper (C)
- Static-switch on AC bypass line (D)
- Batteries (2)
- External bypass cabinet (3)

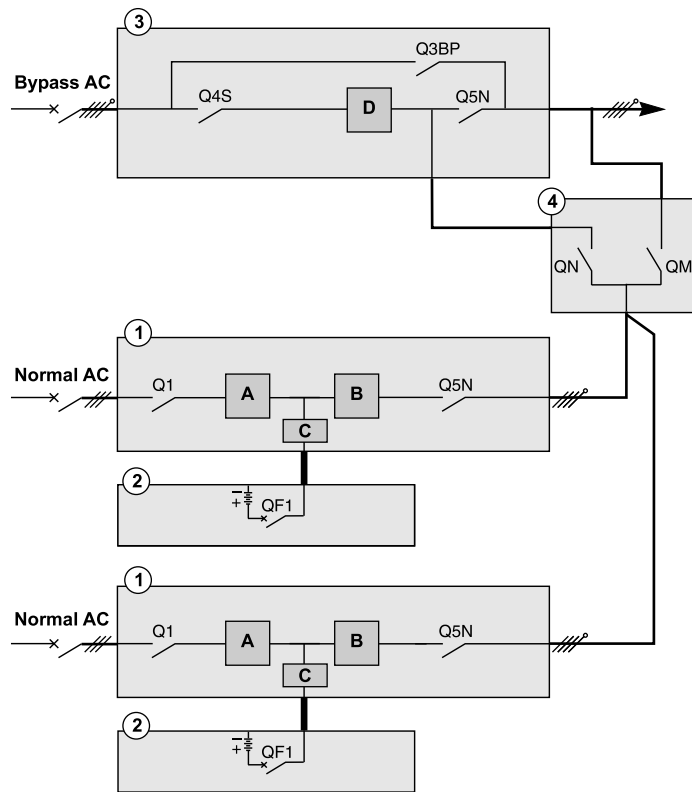
Parallel UPSs with SSC (Static-Switch Cabinet)

Up to eight UPS units can be connected in parallel with a Static-Switch Cabinet.



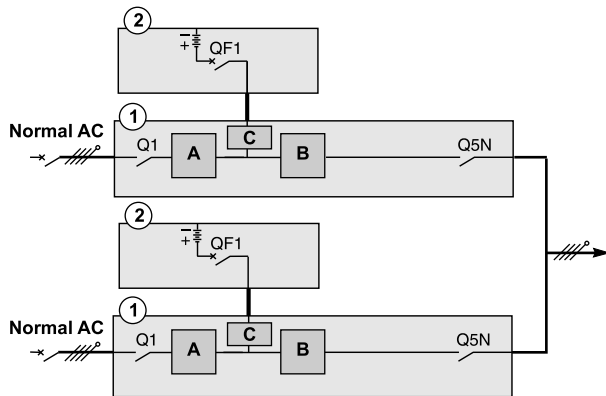
- UPS 1 cabinet (1)
- PFC rectifier module (A)
- Inverter module (B)
- Battery chopper (C)
- Batteries (2)
- SSC (3)
- Static-switch on AC bypass line (D)

Parallel UPSs with SSC and SSC maintenance cabinet



- UPS 1 cabinet (1)
- PFC rectifier module (A)
- Inverter module (B)
- Battery chopper (C)
- Batteries (2)
- SSC (3)
- Static-switch on AC bypass line (D)
- SSC maintenance cabinet (4)

Parallel UPSs set up as frequency converters



- UPS cabinet (1)
- PFC rectifier module (A)
- Inverter module (B)
- Battery chopper (C)
- Batteries (2)

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